

# W5YI

National Volunteer Examiner Coordinator

## REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

Fred Maia, W5YI, Editor, P.O. Box 565101, Dallas, TX 75356-5101

### ★ In This Issue ★

**Haller Speech Controversy Continues**  
**Rules 'unclear' ...FCC "too strict"**  
**Turning switch "on" or "off"**  
**FCC Adopts Minor Part 97 Changes**  
**Commission to Address PCS Service**  
**Obscenity on the Ham Bands**  
**September VE Program Statistics**  
**Ham Licensing Stats for September**  
**Amateur Service Continues to Grow**  
**Fiscal Year End Amateur Statistics**  
**Comments of 216-220 MHz Access**  
**From Industry, Amateurs & Clubs**  
**Ham Charged with Pirate Broadcasts**  
**...and much, much more!**

Vol. 13, Issue #21

\$1.50

PUBLISHED TWICE A MONTH

November 1, 1991

## HALLER SPEECH CONTROVERSY CONTINUES

Reactions from amateurs have been intense to a speech given by FCC Private Radio Bureau Chief **Ralph Haller/N4RH**, at the ARRL National Convention in Saginaw, Michigan on August 24. That speech was printed in your October 1 issue. Haller introduced the unusual idea that instead of resisting the intense demand to use amateur frequencies for non-amateur purposes, the FCC could allow them on a secondary (non-interference) basis.

Former FCC Special Services Division Chief Ray Kowalski said this proposal may have "seductive allure for many amateurs" but could result in "eventual shipwreck" with secondary communications becoming dominant. The ARRL described it as "more flexibility in public service and in personal communication" while still prohibiting business communications.

The *W5YI Report* has been extensively criticized for publishing this information. Some readers concerned about the speech questioned ARRL officials, who announced that Haller never made the remarks attributed to him. The ARRL sent its directors a background paper in two versions, introducing additional interpretations of the controversy.

We have been accused of engaging in "sensational tabloid journalism" by printing the Haller speech as it was given to us by the FCC. At ham-fests and organization meetings, in telephone complaints and public computer messages, ama-

teurs were told that the *W5YI Report* published "inaccurate," "draft," and "leaked" information that reflected neither the content nor the opinions of the Bureau Chief. Hams were apparently told that N4RH never suggested that the Amateur Service has "excess capacity" and that it could be used for "ordering pizzas" if the rules were changed; and that he never used the term "non-amateur communications". These terms appeared in the printed speech.

Although Haller departed from his prepared text, he told us that he is in "**substantial agreement**" with the speech as we printed it. "The issue is whether the rules should be changed through a rulemaking to allow the amateur operators further flexibility without compromising the service," he said. "That is the essence of the text even if I did not choose the words that were there."

We did not obtain the speech surreptitiously. FCC staff members freely gave us a copy of the speech as a part of our regular newsgathering. They gave copies to others. No "leakage" was involved; FCC employees do not typically hand out copies of confidential documents for wide publication. Nor was it an advance copy. We printed it after it was given - with plenty of time for other media to report the extraordinary news.

Haller said that we should not have been given the speech without the caveat that he spoke extemporaneously, using the printed text as an outline.

# W5YI REPORT

National Volunteer Examiner Coordinator

Page #2

November 1, 1991

He was not sure if he used the words "excess capacity" at his Saginaw speech - "I thought I blocked that out of the draft text," he told us. But he made it clear that he does not have a problem with the idea that the Amateur Radio Service has excess capacity: "Excess capacity means you can do something more, and still get your basic communications through. In my mind excess capacity is not a spectrum term. It doesn't mean too much spectrum. It means you have capacity enough to do the basic communications and something else."

N4RH explained that loading on a repeater varies during the day. "Some parts of the day might allow its use for non-emergency public service while other parts of the day might not. I don't view it [excess capacity] as a spectrum term and it's very regrettable that it would be interpreted that way." As another example, Haller suggested "coordination of a hamfest on Amateur Radio - I think we ought to ask the question about whether that ought to be permitted."

He looks forward to a full ventilation of this controversial subject in an open proceeding. We established firmly that - in contrast to allegations - the concept of Non-Amateur Communications was presented to the audience to see on the slide he projected. "I don't recall if I said specifically 'ordering pizzas'," the Bureau Chief added. "I may have referred to picking up milk on the way home or some similar example...."

"The intent was to say if the Amateur Radio Service can support some additional kinds of communications like on the ["Non-Amateur Communications"] slide, or non-business, non-profit making kinds of communications, then we ought to explore to what extent we should change our rules."

"I have serious concerns about opening up the Amateur Radio Service to such an extent that it becomes a substitute for other services. And yet, I think there are things that can be done beyond what the current rules permit that do not compromise the Amateur Radio Service."

## Rules 'unclear'...FCC 'too strict'?

FCC staff members said that this newsletter fairly portrayed the tremendous demand by amateurs to use the amateur frequencies for non-amateur communications. These include the gathering of material for publication or broadcast, the rebroadcasting of government stations, conducting ham organization business on the air, reporting of scores for sports teams and information for the Weather Service, provisioning and transportation of event officials and coordination of personal business affairs among many others.

The ARRL paper described this as "a continuous

stream of questions from amateurs to the Private Radio Bureau of the FCC, probing the limits of permissible communications in the Amateur Service. These questions indicate a lack of clarity in the rules, which FCC would like to clear up, if possible." FCC staff members never told us that they believed the permissible communications rules were unclear.

The paper also said the ARRL had found "mutual agreement" with the Private Radio Bureau that even though "strong rules against business messages ...remain necessary", "the rules being applied might be more strict than necessary."

The wording in the first edition of the ARRL background paper was "...the *interpretations* being applied were more strict than necessary." If in fact the Bureau had 'agreed' that its interpretations - FCC answers to hams' questions about what is/isn't allowed - were too strict, it would be very newsworthy. A lot of amateur practice could be changed just on that news alone.

N4RH said, "I think the existing interpretations are *correct*. Any contemplated changes would go through the rulemaking process and everyone would have an opportunity to comment. The existing interpretations stand. We're not talking about a change of interpretation here. We're talking about the potential for the rule to undergo changes. Or not. The outcome could be that the existing rule serves the amateur community."

The second version of the ARRL paper changed the word "interpretations" to "rules" to conform to the fact that the Private Radio Bureau has not agreed that the interpretations are too strict. Unlike interpretations, *rules* can be changed in most cases only after the FCC takes public comment.

## Turning switch "on" or "off"

The thrust of the ARRL campaign, as evidenced in its background paper, is aimed at selective modification of the permissible communications rules. The paper said that "communications for hire; any communications in which the control operator had an interest [sic]; and communications for one's employer or one's own business would be strongly and specifically prohibited."

Our conversations with FCC staff members, however, suggest that the FCC may find an 'all or nothing' approach more feasible. Special Services Division chief Bob McNamara was skeptical that more rules and definitions could be added to the already detailed §97.113. Events are prompting the FCC to decide whether to "turn the switch on or off" for non-amateur communications, he indicated, and that hams should think carefully before urging the switch "on" - as it could be difficult ever to turn it "off" again.

WOULD YOU LIKE TO BECOME A VOLUNTEER EXAMINER? If so, please send a copy of your Extra Class license, the following signed statement and a SASE to: National Volunteer Examiner Coordinator, 1800 Wilson Blvd., Arlington, VA 22209. I am a currently licensed operator and wish to be a volunteer examiner. I have never had my station or operator license revoked or suspended. I do not own a station.

# W5YI REPORT

National Volunteer Examiner Coordinator

Page #3

November 1, 1991

## FCC ADOPTS MINOR CHANGES TO AMATEUR RULES

On November 5, 1990, the FCC adopted a *Notice of Proposed Rulemaking* on four petitions (RM-7241, RM-7242, RM-7243 and RM-7244) suggesting minor amendments to the Amateur Service Part 97 Rules. The Commission has now acted on these petitions which deal primarily with preferred terminology, technical standards and operational requirements. The new rules are effective December 16, 1991.

**Terminology:** The FCC has decided to adopt new definitions of the terms "telecommand", "telemetry" and "space telemetry" and to delete the reference to frequency drift and Doppler shift in the definition of the term "bandwidth."

### **§97.3(a) Definitions.**

(8) *Bandwidth* - the width of a frequency band outside of which the mean power of the transmitted signal is attenuated at least 26 dB below the mean power of the transmitted signal within the band.

(37) *Space telemetry* - A one-way transmission from a space station of measurements made from the measuring instruments in a spacecraft, including those relating to the functioning of a spacecraft.

(39) *Telecommand* - A one-way transmission to initiate, modify, or terminate functions of a device at a distance.

(41) *Telemetry* - A one-way transmission of measurements at a distance from the measuring instrument.

**Amateur operator compensation:** The rules prohibit Amateur operator compensation with one exception. This exception allows the control operator of a club station to be paid when transmitting telegraphy practice and information bulletins when the club station satisfies four requirements. One of these requirements is that the club station transmit code practice and information bulletins on all Amateur Service MF and HF bands. This exception was requested in 1974 by the ARRL for transmissions from its headquarters station, W1AW. Three HF bands (30, 17 and 12 meters) were added to the Amateur Service since 1974 and the wording is being changed to require compensated code/bulletin service on only six bands. At present the ARRL transmits on seven MF/HF bands, i.e. 160, 80, 40, 20, 17, 15 and 10 meters.

### **§97.113(b) Prohibited transmissions**

(2) - The station schedules operations on at least six amateur service MF and HF bands using reasonable measures to maximize coverage.

**Station identification:** The FCC asked for comments on whether it should require Amateur station identification at the beginning of a transmission through a repeater. Current rules only require station ID at ten minute intervals and at the end of each communication. The FCC

did not make a specific proposal. One amateur pointed out that "...numerous proven methods to prevent unwanted access to a repeater station already exist and that changing the current rules would negatively impact certain types of amateur communications." The FCC agreed and has elected not to make any changes in Section §97.119.

**Auxiliary station:** The FCC amended §97.201 to delete the condition that an auxiliary station can be automatically controlled only when it is part of a repeater system. "Generally, we encourage automatic control whenever the use of devices and procedures for control of an Amateur station ensures that compliance with the rules is achieved. The ARRL supports this amendment because it would allow experimentation with new system configuration," the FCC said. An Amateur auxiliary station is defined as one that transmits point-to-point communications to a network of other amateur stations.

### **§97.201 Auxiliary station**

(d) - An auxiliary station may be automatically controlled. [deleted was the previous portion that read: "...only when it is part of a system that includes a repeater station also being automatically controlled.]

**Space station telemetry transmissions:** The FCC proposed to include transmissions of specially coded messages intended to facilitate communications. Both AMSAT and the ARRL supported this change as offering greater flexibility for the Amateur Satellite Service.

### **§97.216 Telemetry**

Telemetry transmitted by an amateur station on or within 50 km of the Earth's surface is not considered to be codes or ciphers intended to obscure the meaning of communications.

**Remote control:** The FCC made a number of minor technical amendments including revising section headings and the term "remote control" to "telecommand."

### **§97.111(b) Authorized transmissions**

(3) - Telecommand

**§97.211 Space telecommand station** (Previously "Telecommand station.")

**§97.213 Telecommand of an amateur station** (Previously "Remote control of a station.")

An amateur station on or within 50 km of the Earth's surface may be under telecommand where...

**Digital codes:** The FCC added the terms ASCII, AMTOR and Baudot, popularly used by Amateur operators to the digital codes defined in §97.309. There were no objections from the Amateur community.

### **§97.309(a) RTTY and data emission codes.**

(1) - The 5-unit start-stop... (commonly known as Baudot).

(2) - The 7-unit code... (commonly known as AMTOR).

(3) - The 7-unit code... (commonly known as ASCII).

● **FCC to address regulatory framework for PCS services.** On October 24th, the FCC adopted a Policy Statement that provides preliminary guidance for the development of *Personal Communications Services (PCS)* in the United States. The Commission said it intends to broadly define PCS and make available an adequate amount of spectrum for development of innovative and competitive markets. A public hearing on PCS has been scheduled for December 5th. PCS includes a broad array of advanced voice and data services.

There is broad interest from cable TV providers, microwave common carriers, private radio entities and local/long distance and cellular telephone providers in a class of mobile and/or portable technologies and services under the name PCS.

The FCC pointed out that important equipment, cost and international considerations suggest that a portion of the spectrum to be allocated should come from the 1.8 to 2.2 GHz band.

● Washington, DC newsletter publisher, BRP Publications, Inc., has acquired *Federal Communications TechNews* from editor Benn Kobb/KC5CW of Arlington, VA. FCTN will be renamed *Telecommunications Reports Wireless News*. TR Wireless News will continue to focus on the allocation of the radio spectrum, new wireless telecommunications services and spectrum related technologies.

● The FCC has: (1.) begun an inquiry on the development of *international standards to control radio noise* generated by ISM (Industrial, Scientific and Medical) radio devices and; (2.) *proposed the allocation* of 137-138, 148-150.05, 399.9-400.05 and 400.15-401 MHz to *low-Earth satellite operation*. Comments due: December 24, 1991.

● H.R. 73, the *Amateur Radio Spectrum Act of 1991* is theoretically still being considered by the House Energy and Commerce Subcommittee on Telecommunications but no hearings have been scheduled. This legislation would ensure that amateur radio operators could continue to use all the spectrum that is currently allocated to them. If the FCC allocates amateur spectrum for some other use, the bill would require the FCC to transfer comparable spectrum to the Amateur Service. Chances of passage do not look good.

● **David G. Boyd, K9MX**, of Stafford, VA, has written FCC Chairman, Alfred Sikes, inquiring about the *status of the obscenity provisions of the Communications Act of 1934 and Section §97.113(d)* which prohibits "...obscene, indecent or profane words, language or meaning." Boyd is a member of the Amateur Auxiliary of the FCC's Field Operations Bureau authorized by Public Law 97-259.

For the past two years he has been assisting the FCC in gathering evidence in an obscenity case. He was notified in September 1991 that the FCC has decided not to pursue the case because "...although the evidence was clearly obscene and properly collected, it was not usable because most of the offenses occurred after what the courts might consider 'safe harbor' hours.

He was told, however, that he should not assume the FCC was not enforcing the rules against obscenity or indecency. Boyd asks Sikes the following questions

(1.) The fine for obscenity was increased on August 1st from \$1,000 to \$5,000. Does this mean the obscenity provisions of Part 97 are still in place?

(2.) He questioned the definition of obscenity and asked if certain specified very offensive words

were obscene and/or indecent. He also included transcripts of very filthy, sexually-oriented amateur communications.

(3.) Does such conduct qualify as a violation of the obscenity or indecency provisions of the rules?

(4.) Is it the Commission's position that the 'safe harbor' rule applies to amateur radio?

(5.) Does the fact that the FCC amateur radio database lists more than 5,000 licensees under the age of 15 mitigate against the application of the 'safe harbor' rule to amateur radio?

(6.) What is the cutoff (safe harbor) time?

(7.) Whatever cutoff time is established, how do we determine which time zone governs?

Copies of Boyd's letter was also sent to the FCC's Field Operations and Private Radio Bureau, Chief Judge - Administrative Law and certain ARRL officials. The response should be interesting.

● There is still time to *contribute to the IARU Region II WARC Fund*. Individual donations of \$50 and club donations of \$100 are acknowledged with a special lapel pin. Donations go to IARU Region II treasurer **Steve Dunkerley, VP9IM, P.O. Box HM-2215, Hamilton, Bermuda**. Funds are being used for WARC-92 preparation activities. There seems to be widespread IARU Region II support for moving the 40 meter band down 100 kHz to 6900-7200 kHz as a world-wide exclusive allocation.

● *Interesting call sign scheme for new HF/VHF Novices in the UK*. Prefix: 2E England, 2M Scotland, 2W Wales, 2I N. Ireland, 2D Isle of Man, 2U Guernsey, and 2J Jersey. Numeral: 0, indicates "A" Novice w/HF; "1" indicates "B" VHF Novice followed by three further letters. For example: 2E1ABC would be a Class "B" (VHF) Novice in England.

# W5YI REPORT

National Volunteer Examiner Coordinator

Page #5

November 1, 1991

## SEPTEMBER VE PROGRAM STATISTICS

<u>September</u> <u>No. VEC's</u>	<u>1989</u> <u>*18</u>	<u>1990</u> <u>*18</u>	<u>1991</u> <u>*18</u>
<b>Testing Sessions</b>	<b>456</b>	<b>459</b>	<b>628</b>
<u>VEC</u> <u>1989</u> <u>1990</u> <u>1991</u>			
ARRL 48.9%	39.7%	45.9%	
W5YI 30.7	35.3	33.6	
DeVRY 3.5	5.4	4.1	
CAVEC 5.0	4.1	3.2	
Others (14) 11.9	15.5	13.2	
<b>Year-to-Date Sessions</b>	<b>4028</b>	<b>4478</b>	<b>5724</b>
<b>Elements Administ.</b>	<b>7503</b>	<b>6875</b>	<b>12673</b>
<u>VEC</u> <u>1989</u> <u>1990</u> <u>1991</u>			
ARRL 57.4%	48.4%	53.0%	
W5YI 22.6	26.9	26.3	
DeVRY 2.9	4.6	3.6	
CAVEC 5.2	4.5	1.9	
Others (14) 11.4	15.6	15.2	
<b>Year-to-Date Elements</b>	<b>73144</b>	<b>78552</b>	<b>123878</b>
<b>Applicants Tested</b>	<b>4570</b>	<b>4236</b>	<b>7583</b>
<u>VEC</u> <u>1989</u> <u>1990</u> <u>1991</u>			
ARRL 49.5%	46.7%	54.8%	
W5YI 24.4	27.7	27.0	
CAVEC 6.4	4.4	2.1	
DeVRY 5.1	3.6	2.8	
Others (14) 15.8	12.2	13.3	
<b>Year-to-Date Tested</b>	<b>43652</b>	<b>47916</b>	<b>74494</b>
<u>September</u> <u>1989</u> <u>1990</u> <u>1991</u>			
Pass Rate - All	61.9%	60.1%	66.9%
Applicants/Session	10.2	9.2	12.1
Elements/Applicant	1.6	1.6	1.7
Sessions Per VEC	25.3 (*)	25.5	34.9
<b>Administrative Errors by VE's/VEC's</b>			
<u>September</u> <u>1989</u> <u>1990</u> <u>1991</u>			
Defect. Applications	0.4%	0.8%	1.1%
Late Filed Sessions	0.4%	0.7%	3.2%
Defective Reports	0.7%	0.0%	0.8%

(\*) Note: The FCC previously considered ARRL, W5YI and DeVry to be 13 VEC's each since VEC's initially were appointed on a regional basis. Since any VEC may now coordinate examinations in any region, the FCC reduced the number of VEC Regions (62) to VEC Organizations (18.) We have adjusted 1989 figures to reflect this change. The VEC System has now administered 17% more examination elements to 15% more applicants through September than all of last year!  
[Source: Personal Radio Branch/FCC; Washington, D.C.]

## SEPTEMBER AMATEUR LICENSING STATISTICS

<u>September</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
New				
Amateurs:	1059	1359	1552	2407
<b>Upgrading:</b>				
Novices	1075	1171	611	642
Technicians	396	416	284	443
Generals	343	314	214	286
Advanced	244	233	119	206
<b>Total:</b>	<b>2058</b>	<b>2134</b>	<b>1228</b>	<b>1577</b>
<b>Renewals: (*)</b>				
Total Renew:	2437	* 167	* 65	* 47
Novices	209	21	* 8	* 1
<b>Purged:</b>				
Total Dropped:	974	*1162	*1495	* 15
Novices	497	512	* 771	* 6
<b>Census:</b>				
<b>Indiv. Oper.</b>	<b>436828</b>	<b>464800</b>	<b>493292</b>	<b>532072</b>
Change/Year	+6627	+27972*	+28492*	+38780*
<b>Individual Operators by Class: (and % of total)</b>				
<u>Extra</u> <u>Advan.</u> <u>General</u> <u>Technic.</u> <u>Novice</u> <u>Total:</u>				
<b>September 1988</b>				
46152 98354 112989 99603 79730				<b>436828</b>
10.5% 22.5% 25.9% 22.8% 18.3%				100.0%
<b>September 1989 (*)</b>				
49545 101514 116496 112631 84614				<b>464800</b>
10.7% 21.8% 25.1% 24.2% 18.2%				100.0%
<b>September 1990 (*)</b>				
52847 104365 119158 125217 91705				<b>493292</b>
10.7% 21.2% 24.2% 25.4% 18.5%				100.0%
<b>September 1991 (*)</b>				
56487 107127 121971 150069 96418				<b>532072</b>
10.6% 20.1% 23.0% 28.2% 18.1%				100.0%
Club/				
RACES & (1988) (1989) (1990) (1991)				
Military: 2301 2505 2438 2431				
<b>Total Active:</b>	<b>439129</b>	<b>467305</b>	<b>495470</b>	<b>534503</b>
% Increase	+1.5%	+6.4%	+6.0%*	*+7.9%*

### (\*) NOTE:

The number of amateurs in 1989, 1990 and 1991 is not comparable with prior years. Due to the implementation of the 10-year term license in 1984, amateurs who would ordinarily be dropping out of the Amateur Service between 1989 and 1993 by not renewing will be carried on the amateur rolls for another five years before being purged from the FCC's data base. This has the effect of overstating the ham census between 1989 and 1991 since the records of silent keys and non-renewals will not be deleted. The fastest growing class is Technician with 50,000 - or 50% - more Techs than just three years ago!

[Source: FCC Licensing Facility, Gettysburg, PA]

# W5YI REPORT

National Volunteer Examiner Coordinator

Page #6

November 1, 1991

## AMATEUR RADIO SERVICE CONTINUES TO GROW!

The public is entering the Amateur Service at a rate that is nearly double that of just three years ago! That's the bottom line of (fiscal) year-ending statistics released by the FCC's licensing facility in Gettysburg. The biggest increase, of course, came this year as individuals were able to obtain a Technician class ham ticket without first learning the Morse code.

Here are the figures for fiscal year 1984 through 1991. Remember that the government year ends on September 30. Also keep in mind that the Codeless Technician class license was only available to the public for the last half of the 1991 fiscal year.

While there was an increase of 46.8% in the number of newcomers to the hobby for the entire year, the percentage for the last six months was a whopping 83.5% increase. (April-Sept. 1990 = 13,570 beginners; April-Sept. 1991 = 24,898.)

License Class	First Time Amateur Radio Service Licensees							
	1984	1985	1986	1987	1988	1989	1990	1991
Nov	17392	15913	19147	22319	18550	20047	22979	19922
Tech	730	851	1163	1452	2117	2498	2617	17790
Other	678	609	669	567	413	520	538	651
Total	18800	17373	20979	24338	21080	23065	26134	38363
% Increase		-7.6	+20.8	+16.0	-13.4	+9.4	+13.3	+46.8

The number of licensees upgrading their existing operator license is also at an all time high! The number of Technicians upgrading (shown below) does not include Codeless Techs who upgraded to Tech Plus by passing a telegraphy examination. The Commission does not keep the Tech Plus database which is maintained by the VEC's. "Technicians upgrading" only includes those who upgraded to the General, Advanced or Amateur Extra class.

From Class	Amateur Radio Service Licensees Upgrading							
	1984	1985	1986	1987	1988	1989	1990	1991
Nov	8829	10422	11151	13365	14525	15198	16417	15326
Tech	2504	3833	3861	3687	4780	5017	6092	7448
Gen	3361	3829	4358	4007	4019	3835	4343	4834
Advan	1490	2214	2858	2755	3018	2739	2847	3217
Total	16184	20298	22228	23814	26342	26789	29699	30825
% Increase		+25.4	+9.5	+7.1	+10.6	+1.7	+10.9	+3.8

It is also interesting to note the number (and the peak months) that newcomers enter the hobby. Figures for the past eight years follow:

Fiscal Year	First Time Amateur Licensees by Month						
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	
FY-1984	1076	1169	2088	1887	1179	2624	
FY-1985	961	1281	1552	1343	1242	2001	
FY-1986	1356	910	2385	1477	1805	1606	

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	
FY-1987	874	1404	1826	2248	1889	795	
FY-1988	882	1131	2582	1189	1624	2733	
FY-1989	923	1769	2144	2234	1274	2147	
FY-1990	1811	1244	2170	2671	1941	2727	
FY-1991	1826	1746	3259	1816	2162	2656	

Fiscal Year	First Time Amateur Licensees by Month							Total
	Apr.	May	June	July	Aug.	Sept.		
FY-1984	2073	1898	2072	987	968	779		18800
FY-1985	2043	2174	1186	1431	1297	862		17373
FY-1986	2767	958	2028	2806	1377	1504		20979
FY-1987	2950	6797	1850	870	918	1917		24338
FY-1988	2195	3002	1494	1842	1347	1059		21080
FY-1989	2821	3302	2003	1601	1488	1359		23065
FY-1990	2658	4284	1984	2003	1089	1552		26134
FY-1991	5749	4714	3231	4676	4121	2407		38363

## Ham Census - Ten Most Populated States

FY	FY	FY	FY	FY	FY	FY	FY
1984	1985	1986	1987	1988	1989	1990	1991
(1.) California							
56606	59960	58400	59944	61432	66130	71895	79031
(2.) Florida							
23778	24518	25476	26242	27094	28856	30755	33128
(3.) Texas							
24124	24408	24930	25495	25992	27750	29261	31699
(4.) New York							
25996	25833	26030	26001	25505	26878	28202	30073
(5.) Ohio							
20467	20276	20370	20783	21010	22179	23317	24944
(6.) Pennsylvania							
17223	17153	17309	17525	17531	18439	19391	20584
(7.) Illinois							
17588	17384	17446	17548	17509	18286	19070	20183
(8.) Washington							
12383	12600	12997	13436	14016	15034	16046	17492
(9.) Michigan							
14389	14212	14158	14259	14258	15052	15670	16690
(10.) New Jersey							
12958	12924	12910	12932	12823	13482	14068	14835

The top ten states account for more than half of the U.S. amateur population (54.3%). **The ten states with the fewest amateurs are:** Wyoming 1,169, Delaware 1,220, South Dakota 1,268, North Dakota 1,270, Vermont 1,481, Montana 1,997, Rhode Island 2,082, Alaska 2,359, Idaho 2,536 and Nevada 2,710

## Amateur Census Since 1984 by License Class:

F.Y.	Extra	Advan.	Gen.	Tech.	Novice	Total
1984	35624	97084	116804	79950	80461	409923
1985	37968	97825	117340	83117	76337	412587
1986	40768	98195	116864	86148	79107	421082
1987	43214	98147	114424	91633	82779	430201
1988	46152	98354	112989	99603	79667	436828
1989	49545	101514	116496	112631	84614	464800
1990	52847	105365	119158	125217	91705	493292
1991	56487	107127	121971	150069	96418	532072

November 1, 1991

# W5YI REPORT

National Volunteer Examiner Coordinator

## COMMENTS ON 216-220 MHz AMATEUR ACCESS

On June 4, 1991, the American Radio Relay League filed a massive petition with the FCC seeking a secondary allocation for the Amateur Service at 216-220 MHz. The objective of the filing was to reaccommodate those Amateurs who were displaced by the Docket 87-14 reallocation of 220-222 MHz to narrow band business radio. The well-supported document suggested that 216-220 MHz spectrum could indeed be effectively shared with other services currently using the band.

The ARRL proposed that Amateur access to 216-220 MHz be authorized only for point-to-point fixed operation on a non-interference basis. The League said amateurs would have to first obtain authorization from a 216-220 MHz database coordinator. A power limitation of 50 watts was suggested by the ARRL.

Actually, the petition was more or less invited by the FCC when they rejected the League's *Petition for Reconsideration* of the 220-222 MHz reallocation. At that time the FCC said the ARRL could make a specific proposal supporting how it might use 216-220 MHz without causing interference to existing users - or to adjacent TV channel 13 operations at 210-216 MHz.

The League responded with a half-inch thick bound document weighing a full pound. It said the 220-222 MHz loss left the Service without a reasonable substitute for its planned wideband highspeed inter-city packet radio network. Experimental testing confirmed very little channel 13 interference potential...especially above 218 MHz. A study by an outside research firm confirmed significant sharing opportunities. The League said it would be willing to assume the frequency coordination function to minimize interference. The FCC accepted the petition for rulemaking and assigned it RM-7747. Follows is a representative sampling of the comments being received by the Commission.

### Comments of MSTV, Inc.

Worried about possible interference to TV channel 11 and 13, the Association of Maximum Service Television, Inc., filed their comments in opposition to the ARRL proposal.

"The risk becomes even more apparent upon a close examination of the test results that ARRL cites to support its claim that the proposed operating restrictions will prevent such interference."

MSTV called the ARRL research using five "previously owned" television receivers as "...flawed for several reasons. ...Any test to determine the extent of interference to television reception must be based on

sound, up-to-date methodology that will provide accurate, reliable information." MSTV said the ARRL failed to show how amateur operations could use 216-220 MHz without causing interference to adjacent TV channel 13.

Maximum Service Television also reminded the FCC that many locations have a vacant Channel 13. "It simply makes no sense at this critical juncture to be stampeded by ARRL into a precipitous and highly risky allocation of additional spectrum in this band for the Amateur Radio Service."

MSTV's comments were submitted by their Washington, DC counsel and consulting engineer.

### Comments of Watercom System

Waterway Communications System, Inc. operates an Automated Maritime Telecommunications System (AMTS) on frequencies in the 216-220 MHz band along the Mississippi, Illinois and Ohio Rivers and on the Gulf Intercoastal Waterway.

"The Watercom system provides full duplex voice, data and facsimile services to vessels operating along 4,000 miles of inland and coastal waterways which constitute the principal water transportation network of the United States. Watercom thus has a substantiate interest in the allocation and use of the 216-220 MHz band."

Watercom agrees that with appropriate separations between AMTS and Amateur Service operations, the Amateurs can utilize 216-220 MHz without causing harmful interference to AMTS operations. It also agrees that the appropriate procedure for handling the separations is through the frequency coordination process.

"An effective frequency coordination process also would provide a database of licensees and their locations not otherwise available from the Commission's licensing records... to facilitate the resolution of interference should problems occur."

Watercom strongly urges the Commission to make frequency coordination mandatory and to recognize the ARRL as the coordinator. "The Commission's experience with regard to self-certification for frequency coordination purposes in the past has proven unsuccessful."

"In summary, Watercom believes that the Amateur Service successfully can use 216-220 MHz band frequencies on a non-interference basis to Automated Maritime Telecommunications Systems. The key to such compatible usage is ...effective frequency coordination." Watercom's comments were filed by Martin E. Bercovici of Keller and Heckman, its Washington, DC attorney.

Five 5-1/4" 360K disks cover every license class. Only \$29.95 postpaid.   
 "I...le Ar...my" C...puter...ded...le C...e in...ed. W5YI; P...Box #565101; Dallas, TX 75356. Satisfaction guaranteed or money back   
 identified - and explanation why answer is correct for the Codeless   
 lchr h lic b. c i \$ plus 100 plus 15YI, 1 Bo   
 565101; Dallas, TX 75356 Tel. (toll-free) 1-800-669-W5YI (9594)

**National Volunteer Examiner Coordinator**

November 1, 1991

Bruce O. Jordan of Saratoga, CA said he has twenty-five years of amateur and professional communications experience. He is a graduate of California State University at San Jose and holds a commercial first radiotelephone license, a NABER certified technician certification as well as Amateur Technician license WA6YLV.

"I fully support the *Petition for Rulemaking*, RM-7747, as filed by the ARRL with the Commission. Allowing the secondary access by Amateurs to these frequencies is a positive action for both the Amateur and the AMTS Service."

"...there is a strong need for this spectrum to support the Amateur operations that were displaced by the loss of 220-222 MHz in Docket 87-14. ...this frequency range is very desirable for the high speed packet networks as well as other point-to-point networks because of emission limitations and propagation characteristics."

"...allowing the Amateur Radio Service to share these frequencies with the Maritime Services would be an excellent re-use of spectrum that would otherwise be relatively vacant away from the coastal regions and Mississippi River valley. A major use by the Amateur Service would be cross-country high-speed digital networks. Most of these would not be ...near a coastal region. ...proper coordination could allow crossing the Mississippi River without degrading either service. ...TV operations should also be well protected from interference with adequate separation."

"The sharing of these frequencies could be carried out without additional administrative burden or cost to the government and the public for coordination. I also feel that the sharing arrangement could work with the proposed *Interactive Video Data Service* should it be approved."

The Valley Emergency Radio Association (VERA) is a not-for-profit public service oriented Amateur Radio organization based in Southern California. "We have been active in supporting the emerging Amateur Packet Radio Network for over five years and currently operates several network resource stations in the 222-225 MHz band. Prior to the loss of the 220-222 MHz segment, we were active in providing trunking facilities using those frequencies and the loss of that spectrum has had a very adverse effect on our ability to provide those services."

VERA endorsed the proposal as submitted by the American Radio Relay League. "We believe that

serious damage has been inflicted upon the Amateur Packet Radio Network and other Amateur Radio operations as result of actions taken in Docket 87-14 and that secondary use of the 216-220 MHz band will assist in alleviating some of that damage."

"VERA desires to continue its support of the development of Amateur Packet Radio and believes that adequate frequencies for use in trunking applications is the greatest immediate need. Point-to-point circuits between multi-node hubs will be the backbone of the system and frequencies in the 216-218 MHz band will work well for many of those trunks."

"Experience in this frequency range suggests to us that interference problems with other services could be easily minimized through appropriate frequency coordination, site selection and antenna polarization actions."

"VERA believes that because of the adverse effects of Docket 87-14, the 1.25m band usage pressures existing in locations like Southern California, the unavailability of alternative frequencies with similar propagation characteristics, and the need to provide Amateur Radio a place in the VHF spectrum for wideband (100 kHz) and narrowband trunking channels, it is important for the Commission to act favorably on the request for a secondary allocation in the 216-218 band."

The ARRL submitted comments on its own petition on October 23, 1991. The League noted that the FCC extended the comment deadline to allow additional time for Watercom to conduct an engineering analysis of the League proposal and to coordinate any technical concerns that Watercom might have with the League's technical staff and consultants."

"The Amateur Radio Service has now lost access to the 220-222 MHz segment, and the result has been a severe crowding in many metropolitan areas, especially in California and the northeast states, in the remainder of the band at 222-225 MHz. The urgency of the secondary allocation sought by the League at 216-222 MHz is now significantly greater than it was prior to August of this year."

"There is simply no room in these areas for any new Amateur wideband data communications at 222-225 MHz, and, as predicted, the development of the nationwide high-speed packet system has been severely hampered. The League reiterates its support for the requested allocation, and urges that the Commission proceed at the earliest opportunity with the issuance of a *Notice of Proposed Rulemaking* proposing the same." (Submitted by Chris Imlay, N4AKD, ARRL Counsel.)

**NEW!!**

**UNDER \$9.95**

**plus \$2.00 shipping charge**

**Contains all (nearly 2,000) questions, multiple choices and answers in every license examination. Also complete**

**SATISFACTION**

**THE RADIO AMATEUR'S LICENSING HANDBOOK** is for everyone who is interested in licensing... for radio amateurs who want to know about amateur radio license tests, amateurs

# W5YI REPORT

National Volunteer Examiner Coordinator

Page #9

November 1, 1991

## HAM EXPERT ON CLANDESTINE RADIO CHARGED WITH PIRATE BROADCASTING

The Denver FCC field office recently issued a press release telling about an Extra Class amateur radio operator and nationally known communications writer operating a pirate radio station.

"The FCC's Denver Office in coordination with the Commission's nationwide monitoring network closed down an unlicensed pirate broadcast station in Limon, Colorado, on October 6th, 1991. Don Bishop, editor of well known radio trade magazine, [*Mobile Radio Technology* and Extra Class radio amateur, NØEA], was illegally operating on 15.050 MHz which is reserved for aeronautical mobile services. He later switched to 7.420 MHz which is reserved for the fixed service. The Commission routinely imposes a fine of \$8,000 for operating an illegal broadcast station.

Bishop's illegal broadcasts were initially monitored by the FCC's Laurel, Maryland, station at 7:24 a.m. Mountain Daylight Time. Bishop's illegal broadcasts were soon determined to be mobile by the monitoring net as he headed west on Interstate 70 from Kansas City to Denver. The Denver FCC Field Office was notified of the illegal broadcast at 2:30 p.m. as Bishop approached Hays, Kansas. At 5:30 p.m. the Engineer-in-Charge of the Denver Office began to search for the source of the illegal transmissions using direction finding techniques as Bishop crossed the Colorado border. The source of the broadcasts was located to Bishop's car as he was travelling west on Colorado Highway 86 just south of Limon. Bishop was stopped at approximately 8:30 p.m.

Unlicensed operation of a radio transmitter is a violation of *Section 301 of the Communications Act of 1934 as amended*. Sanctions may include administrative fines of up to \$10,000 and/or criminal penalties of up to \$100,000 and/or imprisonment for up to one year. The misuse of radio frequencies is a serious matter because of the potential for interfering with the safety of life radio services such as aviation, marine and law enforcement. (For further information, contact Engineer-in-Charge Bob Weller at the FCC's Denver Office, 303/969-6496)"

We discussed the Bishop incident with Roy Kolly of the FCC's Washington Enforcement Division. We asked him what he thought the penalty might be. "The FCC has not decided what to do yet," he said "or how much the fine should be. The FCC recently increased all their forfeitures. Prior to August 1st, the FCC's field offices all had delegated authority to issue fines of up to \$2,000. Now, because of the increased amount, the

local offices no longer have the authority and everything has to go to the Commission for determination. We will present the case to the five Commissioners and they will vote on what is the proper amount. According to the guidelines the Commission published, it should be at least \$8,000 with a maximum of \$10,000. Once it gets to the Commission, however, they can decide anything. We are just now getting this new [forfeiture] procedure going. We have to write an agenda item for the Commission."

### *Conversation with Denver FCC Office*

We telephoned Bob Weller, Engineer-in-Charge of the Denver field office and asked him about the Bishop bust. Weller is also Amateur Extra Class N6NE. He said he became involved when he got a call from the Washington DC watch officer on Sunday afternoon, October 6th. They told him "...we have a pirate broadcaster on 15.050 MHz upper side band. He has been on for quite a few hours and he is mobile. We believe he is on Interstate 70 headed your way."

Weller said the FCC has a network of thirteen monitoring stations with excellent direction finding capability. "I can't divulge the specific accuracy of our network, but it is very good. We could easily tell the signal was mobile moving at a fairly constant rate ...obviously along a highway."

Bob said he was at home.... "At that time the signals were determined to be coming from Hays, Kansas, which is not in my (Denver) district. I asked to be called back when the signal approached the Colorado border. Three hours later, about 5:30 p.m., they called back and I was told that the pirate was now crossing into Colorado. The signals consisted of recordings of illegal broadcasts of a long active pirate known as 'The Voice of Laryngitis' which is active sporadically ...once or twice a year."

"I came down to the office and picked up one of our low-profile [unmarked] direction finding vehicles and started heading east on Interstate 70. I couldn't pick up the signal direct due to 15 MHz skip, but I was in [cellular] phone contact with offices that were listening to him. As I got near the town of Limon, Colorado, the 15 MHz signal went off and he came back on 7 MHz ...around 7420.

"It was just getting dark at the time and he changed frequency ...just like a professional broadcaster would. When he switched to 7 megahertz I could hear him. From that point it was just a matter of homing in on him. I had the Colorado state patrol stop him and I inspected the station which was in his car. He was running an ICOM amateur-type HF transceiver and a 1000 watt amplifier. The tapes were in his automobile

tape deck. The microphone was connected to the transceiver. I saw no evidence of hard wiring between the tape deck and the transmitter. As far as we can tell, the signal was on essentially continuously [for more than 13 hours] on either the 15 or 7 MHz frequency except when he stopped to eat or for gas. It is remarkable that the station was on for that length of time.

"The next step is typically a *Notice of Apparent Liability for Forfeiture* [fine] and the standard fine is now \$8,000 or higher. It can be reduced for things like 'first offense' ...and increased for 'intentional violations'. [As a professional communications writer] ...he should have known what the new penalties are. Formerly the field bureau issued about 90% of all forfeitures from our individual field offices. Now since the forfeiture amounts have been increased dramatically with no corresponding increase in field forfeiture authority, the Commissioners will have to make the decision. My understanding is that there is a tremendous backlog [of enforcement cases] and I have heard of delays running in the neighborhood of around 60 days. There is a statute of limitations of one year.

"The FCC actively monitors for pirate broadcasts and we have a vigorous on-going program to crack down on unauthorized transmissions ...be they pirate, business, amateur ...or anything else. If you are 'on' [illegally], you are going to get caught. I can not discuss the specific analysis and collection techniques that we use for enforcement.

"I certainly knew who Don Bishop was. He has interviewed me before. This was a very big surprise to me ...and everybody at the FCC. His *Mobile Radio Technology* magazine is perhaps the most widely disseminated two-way radio magazine in the country."

Ironically, Don Bishop was to be the featured guest speaker at the *Radio Club of America* annual banquet on the subject of clandestine radio. The *Radio Club of America* is the nation's oldest and most prestigious society of individuals who have contributed to the communications art. Bishop's name also appears on the ballot as a candidate for RCA 1992-1993 director. His talk on pirate broadcasting has now been canceled. Bishop also used to be president of the Denver [Amateur] Radio Club.

## *Bishop's side of the story...*

We did not know if Don Bishop would talk to us about the episode but we felt we owed him the courtesy of a phone call. We telephoned him on Friday, October 25th. He said he would call us back later from a private telephone ...which he did. Although the incident took place two and a half weeks ago, Bishop

said it was still very difficult for him to talk about it.

"I was leaving from Kansas City to drive to Denver on vacation and I brought along with me some recordings of a pirate station to listen to on my cassette player in the car. For a reason that was unclear to me at the time, instead of simply listening to them on my player, I put them out over my ham radio in the car above the 20 meter and 40 meter ham bands. I did it in a way that virtually assured that the FCC would catch me."

I asked Bishop why he would do such a thing as this. "I didn't know at the time ...I really didn't. I was devastated when Bob Weller stopped me. I have never felt so bad in my life. Radio has been a thread in virtually everything I have done since I was a teenager. I couldn't understand why I would do such a thing. I went to see a therapist while I was still in Denver and had a couple of counseling sessions.

"What has come out of this, is that there is part of me that simply was not dealing very effectively with my father's condition who is in extremely poor health. ...I have just moved him out to Kansas City from Denver having been separated from him for five years and not able to care for him very well. ...It has been a tremendous emotional strain watching him decline. I had a health problem about ten years ago that went into remission ...it surfaced again in the summer of this year and gave me a great deal of pain and fear as to my own situation.

"As far as I have been able to determine thus far with the counseling that I have had, we think that everything we do will have a positive result ...as extremely negative as the short term results may be. This incident has the possibility of affecting my livelihood. You can't compare a fine to the complete loss of income ...and you can't eat a ham license.

"I am getting some of the help I need to face these personal difficulties. If I was to characterize what I did, I would say it was cry for help. ...Many people might find a way to handle these problems effectively and it wouldn't cause a change their behavior that is inappropriate ...but that is what happened to me. It really has been a trying experience and it is not over yet. No one has been able to guess the reason behind this ...I can't blame them. I didn't know myself why I did it.

"You can't imagine how tortured I feel. There was every reason in the world for me not to do such a thing ...and yet I did. My broadcasts extended for many, many hours. I fell right into their arms. Had they not found me it would have been surprising. This is part of the psychological background that I have not yet come to grips with. I wish I could say that I don't believe it ...but I have to believe it. I have accept it and the reason behind it ...and handle it properly."